

Name Key

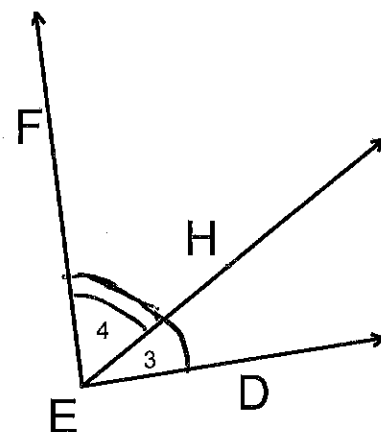
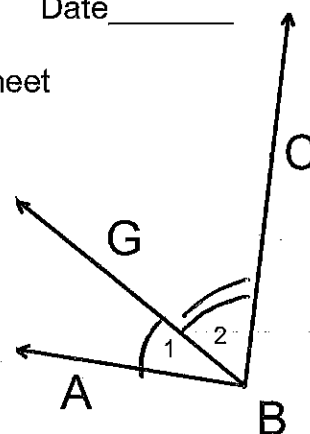
Date _____

202 Addition/Subtraction Proof Worksheet

Complete the following proofs.

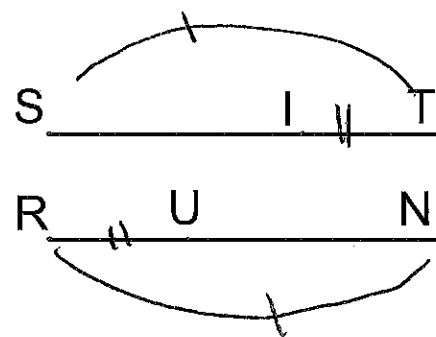
1. Given: $m\angle 1 = m\angle 3$
 $m\angle 2 = m\angle 4$
 Prove: $m\angle ABC = m\angle DEF$

Statements	Reasons
1. $m\angle 1 = m\angle 3$; $m\angle 2 = m\angle 4$	1. Given
2. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	2. Addition
3. $m\angle ABC = m\angle 1 + m\angle 2$ $m\angle DEF = m\angle 3 + m\angle 4$	3. A.A.P.
4. $m\angle ABC = m\angle DEF$	4. Substitution



2. Given: $ST = RN$; $IT = RU$
 Prove: $SI = UN$

Statements	Reasons
1. $ST = RN$; $IT = RU$	1. Given
2. $ST = SI + IT$; $RN = RU + UN$	2. S.A.P.
3. $SI + IT = RU + UN$	3. Substitution
4. $SI = UN$	4. Subtraction



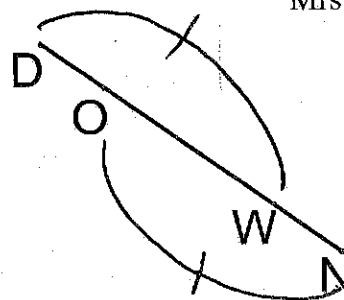
3. Given: $DW = ON$
 Prove: $DO = WN$

Statements

Reasons

1. $DW = ON$
2. $DW = DO + OW$; $ON = OW + WN$
3. $DO + OW = OW + WN$
4. $OW = OW$
5. $DO = WN$

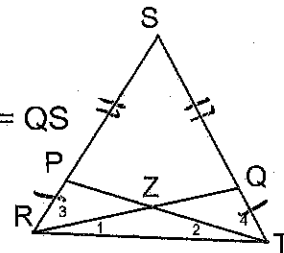
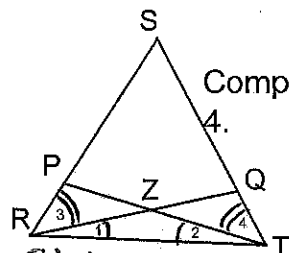
1. Given
2. SAP
3. Substitution
4. Reflexive
5. Subtraction



Complete the following proofs on your own.

4. Given: $m\angle 1 = m\angle 2$; $m\angle 3 = m\angle 4$
 Prove: $m\angle SRT = m\angle STR$

5. Given: $RP = TQ$; $PS = QS$
 Prove: $RS = TS$



Statements

Reasons

- ① $m\angle 1 = m\angle 2$; $m\angle 3 = m\angle 4$
- ② $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$
- ③ $m\angle 1 + m\angle 3 = m\angle SRT$
 $m\angle 2 + m\angle 4 = m\angle STR$
- ④ $m\angle SRT = m\angle STR$

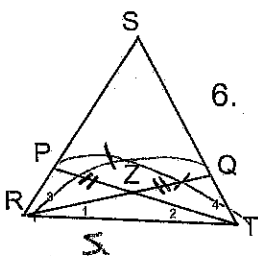
- ① Given
- ② Addition
- ③ AAP
- ④ Subst

S

R

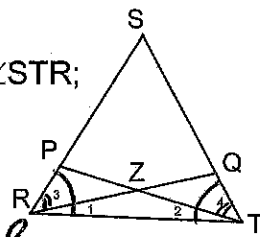
- ① $RP = TQ$; $PS = QS$
- ② $RP + PS = TQ + QS$
- ③ $RP + PS = RS$
 $TQ + QS = TS$
- ④ $RS = TS$

- ① Given
- ② Addition
- ③ SAP
- ④ Subst



6. Given: $RQ = TP$; $ZQ = ZP$
 Prove: $RZ = TZ$

7. Given: $m\angle SRT = m\angle STR$;
 $m\angle 3 = m\angle 4$
 Prove: $m\angle 1 = m\angle 2$



① $RQ = TP$; $ZQ = ZP$

① Given

② $RQ = RZ + ZQ$
 $TP = TZ + ZP$

② SAP

③ $RZ + ZQ = TZ + ZP$

③ Substitution

④ $RZ = TZ$

④ Subtr.

S

R

① $m\angle SRT = m\angle STR$
 $m\angle 3 = m\angle 4$

① Given

② $m\angle SRT = m\angle 3 + m\angle 1$
 $m\angle STR = m\angle 4 + m\angle 2$

② AAP

③ $m\angle 3 + m\angle 1 = m\angle 4 + m\angle 2$

③ Subst

④ $m\angle 1 = m\angle 2$

④ Subtr.